

REMARKS

This is in response to the Official Action mailed on September 7, 2007. By this amendment, claims 1, 7-11, and 12-21 have been cancelled. Claims 2-5 and 12 have been amended to depend from the only remaining independent claim, namely claim 22. Claims 22-27, 2-5 and 12 remain in the case. Entry of this amendment and allowance is respectfully requested.

Claims 22-27 were rejected as being unpatentable over a combination of the Yoshioka et al. publication 2002/0043215 and the Dornfest et al. patent 6,082,714. Yoshioka discloses a vaporization system, and the Examiner indicated that Dornfest in FIG. 15 disclosed a vaporization system analogous to that of Yoshioka and taught the use of a heated metal block for vaporizing atomized liquid. The heated block 188 of Dornfest was said to include a plurality of passageways between fins 178, so that there was a tortuous passage for the atomized material. It was alleged that a vaporization chamber in Dornfest included a second block 186 having passageways as recited in claim 26.

It is believed that it is incorrect in that recirculation is not present in Dornfest, and also it is quite clear that Dornfest does not include the features of claim 22 including a first metal block with a plurality of passageways therethrough providing heating surfaces and a bore aligned with an inlet. The bore that is aligned with the inlet to the vaporization chamber that houses the block, has an orifice that forms an opening to the bore. The orifice provides control of the flow and recirculation is caused by having the orifice in this vaporization system.

The Dornfest et al. patent shows a single inlet with a nozzle 170 in the center, that directs material into the passageway defined by the fins of by blocks 186 and 188, but there are no separate passageways through the block 186. The block 188 below the

tortuous passageways has ports 182, there is no orifice that controls flow into a bore that is directly aligned with the inlet to the housing. In fact, there is no housing as claimed in claim 22 shown in the either of the Dornfest patent or the Yoshioka publication.

Thus, even if the Dornfest patent was adapted to be used with the Yoshioka vaporizer, the construction of claim 22 would not be rendered obvious or would not be met by this combination.

The orifice of claim 22 is missing in the prior art combination. The alignment of a bore in the heated block with the inlet, and the orifice forming the opening to the bore is not in anyway disclosed or suggested in the cited art. The arrangement of the orifice is to control the flow so that the flow goes through the plurality of passageways for complete vaporization of the liquid droplets. The recirculation caused by the orifice aides in obtaining optimum output of vaporized materials.

Claims 23 and 24 depend from claim 22 and are believed allowable therewith.

It is believed that claim 25 is allowable specifically in that the construction defines the velocity of the gas jet which causes recirculation from an output side of the bore on the first metal block, through the plurality of passageways back toward the inlet for mixing with aerosol as the aerosol passes through the mixing orifice.

It is respectfully submitted that such a feature is essentially impossible in the Dornfest et al. patent with the large outlet opening, and the ports 182 that lead directly to the outlet opening from which the material is discharged. Recirculation is not disclosed, and there is no construction shown in Dornfest that would cause recirculation.

Claim 26 is believed allowable also. The Examiner indicated that Dornfest et al. had a second metal block but, it is respectfully submitted that the second metal block of claim 26 is

spaced from the first metal block, so that there is a space or opening that is not part of the passageways of the first metal block, as distinguished from the Dornfest patent where the passageways or fins alleged to form the passageways are essentially parts of both of the metal blocks of Dornfest et al. Atomized materials do not have an opening or space in Dornfest where the atomized material slows down so as to provide for greater heating.

Claim 27 in particular is not rendered obvious by the references in that the second metal block of claim 27, which claim depends from claim 26, has a solid surface aligned with the bore in the first metal block to divert gases laterally outwardly toward the passageways in the second metal block. This is the space that is between the two metal blocks that is utilized for this diversion of the gases that strike the imperforate surface for increased heating of the aerosol in a compact space. In Dornfest et al., the fins 178 and 180 are between the inlet and the bores 182.

Claims 2-5 and 12, depend from claim 22 and are allowable therewith.

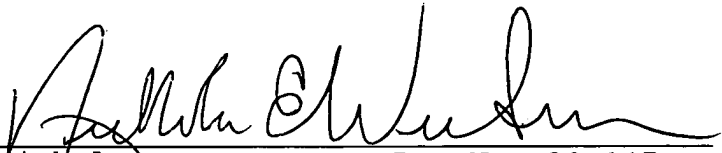
Therefore, the remaining claims in the case, namely, claims 22-27, 2-5, and 12, are believed allowable and action to that effect is respectfully submitted.

It was noted that formal drawings had not been filed in this application. Formal drawings are submitted with this amendment.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to deposit account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 
Nicholas E. Westman, Reg.No. 20,147
Suite 1400
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

NEW:rkp